

**Coin-operated entertainment machine - enables player intervention in process of game when defined threshold exceeds total points memory**

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**Abstract**

A winning symbol combination achieved during normal play on a games machine is associated with winning points which are accumulated in a credit memory in the form of a total point memory (16). When a defined threshold state has been exceeded into the total points memory the winning points can be converted into a series of plays and/or into a cash winnings value according to a defined relationship to the number of points.  
USE/ADVANTAGE - The coin operated games machine is developed to enable the player to take an active part in the progress of the game.

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## Description

The invention relates to a coin-operated entertainment device featuring a symbol gambling device displaying combinations of symbols determining wins and losses according to the characterising clause of patent claim 1.

In known coin-operated entertainment devices with direct payout option, the rotating bodies of a symbol gambling device are set to rotate following the insertion of coins to the value of at least one stake and are then made to come to rest in stopping positions previously determined by means of a random number generator. When the rotating bodies come to rest, their symbols, which determine whether the outcome is a win or a loss, appear behind a viewing window through which they are visible to the player. The winning symbol combination is assigned a win in the form of a monetary payout or of a series of games. The value of the payout of the win is kept in a coin storage unit, and the serial games are recorded in a bonus game storage location with a display means showing the counter reading. During the bonus games operation, the payout value for each symbol combination resulting in a monetary win is incremented by a predetermined amount in DM.

Also known are coin-operated entertainment devices without payout option, in which the value of coins accepted by a coin unit is converted to points based on a predetermined assignment. If the point storage location contains points equivalent to a stake, the rotating bodies of a symbol gambling device are set in motion by the control means of the entertainment device and stop at stopping positions previously determined at random. The symbols visible to the player behind viewing windows when the rotating bodies are at rest form a symbol combination that determines a win or non-win outcome.

The task of the invention is to further develop a generic entertainment device in such a way that the user of the entertainment device is able to actively intervene in the running of the game.

This task is solved by the invention by means of the characterizing features of patent claim 1.

Further embodiments of the invention are contained in the subclaims.

The coin-operated entertainment device according to the invention has the advantage that the user of the entertainment device can actively intervene by choosing the time when he wants to play serial games. This option to intervene breaks down the rigid boundaries that are characteristic of the running of the game known to date.

The drawing shows the invention in an example of an embodiment. Shown are:

Fig. 1 an arrangement for performing the conversion of the payout value according to the invention in a coin-operated entertainment device, in the form of a block diagram, and

Fig. 2 a flow chart of a control unit in the coin-operated entertainment device for games with an increased payout value.

The components of a coin-operated entertainment device with direct payout option that are essential to an understanding of the invention are shown in a block diagram labelled 1 in Fig. 1. A control unit 2 comprises a microcomputer 3 and a control device 4 for controlling the drive motors (not described in greater detail) for the disc-shaped rotating bodies 5 to 7 of a symbol gambling device 8. Apart from a random number generator 9 for determining the stopping positions of the rotating bodies 5 to 7, the microcomputer 3 also comprises the means for the determination of the outcomes in the game of chance, and it controls the lighting and sound effects.

The microcomputer 3 consists of a microprocessor (not shown in detail), random access memory, a program storage memory 10 which contains the payout table, as well as the other components required for the operation of such a unit, such as buffers, clock generators, and similar items. An input-output unit 11 forms the interface between the microcomputer 3 and the peripheral devices, such as control elements 12, lamps 13, display means 14 which are allocated to the coin storage location, the total points storage location, the serial games storage location and the winning games storage location 15 to 18 of the microcomputer 3, as well as to a coin unit 19 allocated to a coin-acceptor unit and a payout unit.

A supply unit 20 is responsible for the power supply for the entire entertainment device. The required voltages are taken off a mains transformer, rectified and supplied to the various component groups.

The disc-shaped rotating bodies 5 to 7 of the symbol gambling device 8 are allocated position detectors 21, which in turn are linked to the control device 4 for the drive motor control.

The flow chart 22 shown in Fig. 2 depicts the control arrangement for the payout values in a coin-operated entertainment device according to the invention.

Following on from a start symbol 23, a decision 24 is made and, depending on whether the level of the coin storage unit is the equivalent of a stake, a game is started in step 25 by setting in motion the rotating bodies 5 to 7 of the symbol gambling device 8. The stake for the current game is debited to the coin storage unit 15. If the reading of the serial game counter 17 is not equal to zero, a decision 26 branches to the subsequent step 27 which, based on the payout table, determines the payout value assigned to the symbol combination displayed by the symbol-carrying rotating bodies 5 to 7 at rest. The payout assigned to the winning symbol combination is recorded in step 28 and added to the DM payout storage location 18. Using a display means arranged on the front of the device, the status of the DM payout storage location 18 is indicated.

From decision symbol 26, a branch leads to step 29 if the query in decision 26 returned the answer that the bonus games counter reading is equal to zero. Step 29 determines the payout value for the symbol combination displayed by the symbol-carrying rotating bodies 5 to 7 at rest. The points won, as assigned to the winning symbol combination in the payout table, are recorded in step 30 and added to the total points storage location 16. The status of the total points storage location is indicated using a display means arranged on the front of the entertainment device. If a test in decision 31 determined that the control element 12 taking the form of a transfer button had not been activated since the start of play, the decision 31 returns to decision 24 for the purpose of querying the status of the coin storage unit to ascertain whether a stake is present for a further game.

If the control element 12 taking the form of a transfer button had been activated, a subsequent decision 32 queries whether the total points storage location 16 has a counter reading exceeding a predefined value. If this is not the case, then decision 32 returns to decision 24 for the purpose of querying the status of the coin storage unit or of the total points storage location to ascertain whether a stake is present.

If the total points storage location 16 has a counter reading that is equal to or greater than a predetermined number of points, then a subsequent step 33 reduces the number of points in the total points storage location by a predetermined number of points or its multiple. According to a predetermined assignment, the number

corresponding to the reduction in the number of points is converted into serial games, and these are recorded in the serial games storage location 17 and displayed to the user of the entertainment device by means of a display means 14 assigned to the serial games storage location 17.

The process branches back to decision 24 in order to check whether the coin storage unit 15 or the total points storage location 16 contain the credits equivalent to the stake required for a subsequent game. If the coin storage unit does not contain enough credits for a stake in a subsequent game, decision 35 checks whether the total points storage location 16 contains the number of points representing the equivalent of a stake. If the total points storage location contains sufficient points for a stake, the decision branches to step 25, and if the contents of the total points storage location 16 are not sufficient for a stake, it branches to the decision 24.

If, during the credit check by decision 24, the coin storage unit only contains a partial stake for a subsequent game, then this partial amount of the stake is debited to the coin storage unit and the missing partial amount to make up the stake is converted into points according to a predetermined assignment and debited to the total points storage location 16. If after the assignment (e.g. DM 1.00;  $\cong$  100 points) the number of points in the total points storage location 16 is smaller than the number of points determined to be needed to make up the missing partial amount of the stake, then a subsequent game may be started once a sufficient number of additional coins have been inserted.

## Claims

1. Coin-operated entertainment device featuring a symbol gambling device which displays a symbol combination that determines a win or a loss, with a control device to control the running of the game and to determine the payout assigned to the symbol combination displayed by the symbol gambling device, in the case of a normal game featuring varying levels of payout, or improved odds for winning in the case of serial games, whereby in the case of a number contained in the serial games storage location and displayed by the display means on the entertainment device, successive serial games take place, characterised in that a winning symbol combination in a normal game is assigned point wins which accumulate in a credit storage location in the form of a total points storage location (16), and once a predetermined number of points in the total points storage location (16) has been exceeded, the points may be converted into serial games and/or a monetary payout according to a predetermined assignment.

2. Coin-operated entertainment device according to claim 1, featuring a payout storage unit and a coin storage unit, each with a dedicated display means, characterised in that the number of serial games and/or of a payout amount determined according to the assignment is accumulated in the serial game storage location (17) or in the payout storage location (18) respectively, with their current levels being indicated by means of the display means 14.

3. Coin-operated entertainment device according to claims 1 and 2, characterised in that in accordance with the number of serial games and/or with the payout amount determined according to the assignment, the number of points assigned to this number is decremented in the total points storage location (16).

4. Coin-operated entertainment device featuring control elements that are linked to the control unit, according to one or several of the above-mentioned claims, characterised in that following the activation of the control element (12) in the form of a transfer button and with the total points storage location (16) containing a predetermined number of points, conversion of the points in the total points storage location (16) into serial games and/or into a payout amount takes place.

5. Coin-operated entertainment device according to one or several of the above-mentioned claims, characterised in that in the event of a credit in the coin storage unit (15) representing a part of the amount required for a stake, this partial amount from the

coin storage unit (15) and the amount still required to make up a stake are converted into points in accordance with a predefined assignment and debited to the total points storage location (16).

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Attached 2 page(s) of  
drawings

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## DE 39 17 683 - Translation of legends

Fig. 1

German	English
Motorsteuerung	motor control
Versorgungseinheit	supply unit
Mikrocomputer	microcomputer
Zufallsgenerator	random number generator
Gewinnplan	payout table
DM-Gewinn-Speicher	DM payout storage location
Gesamtpunkte-Speicher	total points storage location
Serienspiele-Speicher	serial games storage location
Münzspeicher	coin storage unit
Ein-Ausgabe-Einheit	input-output unit
Leuchtorgane	lamps
Bedienelemente	control elements
Anzeigemittel	display means
Münzspeicher	coin storage unit
Gesamtpunkte-Speicher	total points storage location
Sonderspiele-Speicher	bonus games storage location
Gewinn-Speicher	payout storage location
Münzeinheit	coin unit
Münzprüfer	coin-acceptor unit
Auszahlereinheit	payout unit



Fig. 2

German	English
Start	Start
Münzspeicher weist Spieleinsatz auf?	Coin storage unit contains a stake?
ja	yes
nein	no
Gesamtpunktespeicher weist Spieleinsatz auf?	Total points storage location contains a stake?
Spielbeginn	Start of game
Sonderspielzähler $\neq 0$ ?	Bonus game counter $\neq 0$ ?
Gewinnwertermittlung	Determination of payout
Gewinnwert im Gesamtpunktespeicher addieren	Add payout value to the total points storage location
DM-Gewinnbetrag im DM-Gewinnspeicher addieren	Add DM (monetary) payout value to the DM storage location
Umbuchtaaste betätigt?	Transfer button activated?
Ist kleinster übertragbarer Punktestand im Gesamtpunktespeicher vorhanden	Is smallest transferable number of points present in the total points storage location?
vorgegebene oder vielfache übertragbare Punkte im Gesamtpunktespeicher subtrahieren	Subtract predetermined or multiple transferable points from the total points storage location
nach vorgegebener Zuordnung werden die übertragenen Punkte in Sonderspiele umgewandelt	Following the predetermined assignment, the transferred points are converted into bonus games